STATE OF GEORGIA
TIER 2 TMDL IMPLEMENTATION PLAN REVISION 1
Potato Creek Watershed
Flint River Basin

Local Watershed Governments
The Counties of Lamar, Pike, Spalding and Upson;
Select cities therein

I. INTRODUCTION

Total Maximum Daily Load (TMDL) Implementation Plans are platforms for evaluating and tracking water quality protection and restoration. These plans have been designed to accommodate continual updates and revisions as new conditions and information warrant. In addition, field verification of watershed characteristics and listing data has been built into the preparation of the plans. The overall goal of the plans is to define a set of actions that will help achieve water quality standards in the state of Georgia.

This implementation plan addresses the general characteristics of the watershed, the sources of pollution, stakeholders and public involvement, and education/outreach activities. In addition, the plan describes regulatory and voluntary practices/control actions (*management measures*) to reduce pollutants, milestone schedules to show the development of the management measures (*measurable milestones*), and a monitoring plan to determine the efficiency of the management measures.

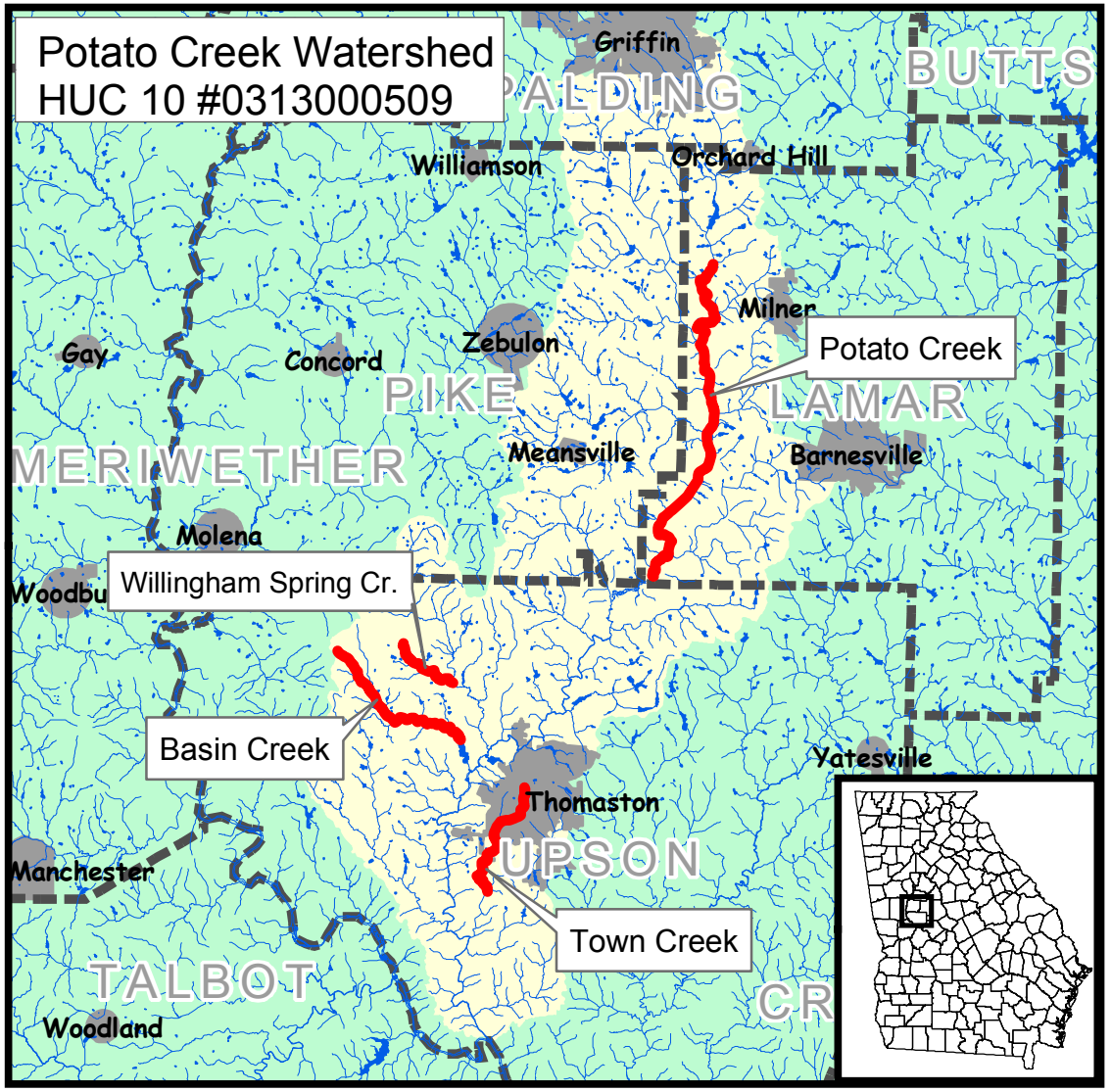


Table 1. IMPAIRMENTS

IMPAIRED STREAM SEGMENT	IMPAIRED SEGMENT LOCATION	IMPAIRMENT
Potato Creek	U.S. Hwy. 333 to Upson Co. Line	Fecal Coliform Bacteria
Town Branch	Thomaston	Biota (sediment)
Willingham Spring Creek	Upson County	Biota (sediment)
Basin Creek	Upson County	Biota (sediment)
Potato Creek +	Headwaters to US Hwy 333	Biota (sediment)
Bell Creek +	Headwaters, downstream Thomaston to Potato Cr.	Fecal Coliform Bacteria

+ RDC previously developed inventory for stream which will be used as plan.

II. GENERAL INFORMATION ABOUT THE WATERSHED

Write a narrative describing the watershed, HUC 10# 0313000509. Include an updated overview of watershed characteristics. Identify new conditions and verify or correct information in the TMDL document using the most current data. Include the size and location of the watershed, political jurisdictions, and physical features which could influence water quality. Describe the source and date of the latest land cover/use for the watershed. Describe and quantify major land uses and activities which could influence water quality. See the instructions for more information on what to include.

Overview

The total Potato Creek drainage basin is approximately 237 square miles in area, and stretches 30+ miles from Griffin, Georgia to the Flint River in Upson County. The creek is primarily classified for fishing but also serves as the public water supply for the City of Thomaston. Potato Creek has been the subject of multiple 303(d) listings; Violations with fecal and biota have driven the pollution issues, with suspicion that part of the fecal listing may have been generated over a specific incident and not indicative of the regular water quality.

The course for Potato Creek means the stream is subject to a combination of urban and rural extremes and the diversity of pollution hazards from these conditions. Most of the creek runs through rolling hillsides of once thriving agricultural parts of Lamar, Pike and Upson Counties. Several commercial chicken farms and cattle or dairy farms still operate within the watershed. In addition, there remains a vast amount of open land still used for passive farming, grazing or other private agricultural activity, plus the relatively natural landscape suggests a prevalence of wildlife, including deer, birds and waterfowl and more. Attempts to identify non-point source pollution within the Potato Creek watershed must stress the potential from animal sources.

The urban factors relate to Griffin and Thomaston, once both thriving textile mill towns. The headwaters for Potato Creek begin in Griffin in mostly residential areas. Some light industrial and institutional activities can also be found in the northern tips of the watershed. Most of the properties within the city and some larger properties outside of the city limits are on the City of Griffin's sewer system, which has a wastewater discharge into Potato Creek just across the county line in Lamar County. Recent testing by the City as part of their NPDES requirements and 319 grant program efforts has shown that the discharge plant is meeting acceptable water quality levels and not contributing to the fecal colifrom issues within the creek.

Both the main branch of Potato Creek and several tributaries run directly through Thomaston, including Towns Branch, subjecting the stream to severe degrees of urban runoff. There is a notable potential for leaking septic or sewer systems to contaminate the streams, but to date no significant leaks or repairs have been identified within the recent timeframe or in relation to the testing dates within the original TMDL. Many of the larger, older industrial operations within the City of Thomaston have been closed down, reducing both the volume of industrial activity and potential for spills or accidents.

There are four NPDES points within the Potato Creek watershed: One municipal site operated by the City of Griffin at the Spalding/Lamar County boundary (Permit #GA0030791), one industrial permit operated by Dominion Engineered Fabrics (Permit #GA0000621), and two private sites credited to a Moose Lodge just south of Griffin (Permit #GA0034592) and the Ga. Baptist Children's Home in Pike County

(Permit #GA0022314). Only the Griffin discharge site lies directly on Potato Creek, with the other three along tributaries feeding into the major stream. No violations from either of these facilities have been reported within the past year.

Verification of TMDL Conditions

With the assistance of stakeholders and the local governments, the MTRDC tried to evaluate the accuracy of watershed conditions established in the TMDL. This included the collection of background information and performance of field surveys for comparison with and confirmation of the TMDL data.

Assessment of the land use characteristics was done comparing various GIS datasets with the information used in the original TMDL. The TMDL assessment of land coverage within the watershed was based on the Georgia Multiple Resolution Land Coverage (MRLC), which utilizes Landsat Thematic Mapper digital images developed in 1995 and updated in 2001. This coverage provides land use categories in a modified Anderson level one and two system. The comparable dataset used by the MTRDC is a 1996 land cover file produced by the Georgia Department of Natural Resources (DNR) using the same system. For additional evaluation the MTRDC also reviewed the most recent local Existing Land Use files for each community involved. These files are based on 2003 parcel-level records maintained by the MTRDC and based upon common zoning and land use classifications.

Potato Creek

	2001	1996
Open Water	0.56%	1.05%
Low Intensity Residential	14.10%	1.74%
High Intensity Residential	2.60%	0.27%
High Intensity Commercial/Industrial	5.10%	1.35%
Bare Rock, Sand and Clay		
Quarries, Strip Mines and Gravel Pits	1.47%	0.16%
Transitional	0.26%	0.68%
Deciduous Forest	18.29%	24.04%
Evergreen Forest	12.76%	15.10%
Mixed Forest	20.93%	23.16%
Pasture/Hay	11.85%	22.05%
Row Crops	3.23%	6.39%
Other Grasses (Urban Recreational)	4.48%	0.73%
Woody Wetland	4.34%	6.27%
Emergent Herbaceous Wetlands	0.03%	0.05%

While differences exist within the numeric values for the land cover data within the Potato Creek watershed, the general breakdown of actual land use within the watershed is concurrent with what is shown in the Tables. The vast majority of the watershed remains in a largely natural state with extensive forest and vegetation. The most notable difference between the records is the increase in Low Intensity Residential land use, a natural phenomena from the growth in the area.

Existing Land Use, 2003	
Undeveloped / Unused	13.59%
Agriculture / Residential	70.23%
Low Density Residential	13.10%
Medium Density Residential	1.10%
High Density Residential	
Commercial	0.37%
Public / Institutional	
Industrial	1.61%

The notable distinguishing land uses and activities within this watershed include the municipal discharge at the Lamar/Spalding County line and Highway 41 as it runs along the length of the watershed. For the most part the area is a rural agrarian landscape with several farms, multiple grazing areas and parts of smaller, urbanized cities like Zebulon and Barnesville.

An additional resource reviewed was the Source Water Assessment Program (SWAP) report performed by the MTRDC for the Potato Creek watershed in 2002. As part of a regional assessment of water supply resources, this purpose of this study was to identify and evaluate potential pollution sources within the watershed. These SWAP reports also evaluated land use and land cover characteristics as well as trends in development and water quality monitoring.

Field Surveys were also done to assess the state of the watershed and to identify conditions that might serve the impairment of the stream segment. Between February and May of 2004 MTRDC staff drove along every public roadway within the watershed, looking for land use and development activity near and along stream banks that might contribute to a pollution problem.

- **Conditions of riparian areas – Fair to good. Much of the watershed appears environmentally sound with little to no land disturbance.**
- **Conditions of stream banks – Poor to good. Several sections of stream banks appear worn from erosion and intrusion, but there are no large stretches of stream banks matching that description.**
- **Observe any fish – Yes. Unable to discern general health or growth, but there were notable concentrations of fish.**
- **Water quality and clarity – Fair. Some patches of the creek were cloudy.**
- **Ditches capable of draining into the stream – No manmade ditches detected, but several natural drainage areas that exhibit similar qualities.**
- **Buffer requirements – No violations of stream-buffer requirements were detected.**

{Potato Creek}

COMPLETE THE FOLLOWING TABLES FOR AND NARRATIVES ABOUT EACH IMPAIRED STREAM IN THE WATERSHED.

STREAM SEGMENT NAME	LOCATION	MILES/AREA	DESIGNATED USE	PS/NS
Potato Creek	U. S. Hwy. 333 to Upson Co. Line	11 miles	Fishing	NS

III. SOURCES AND CAUSES OF STREAM SEGMENT IMPAIRMENT LISTED IN TMDLs

After reviewing the TMDLs written for this stream, complete the following tables with **the information found in the TMDLs**. List each parameter for which the stream segment is impaired and the water quality standard violated. See the instructions for the water quality standards. Describe the sources and causes of each violation identified in the TMDLs.

Table 2. SOURCES OF IMPAIRMENT AS INDICATED IN TMDLs

PARAMETER 1	WQ STANDARD	SOURCES OF IMPAIRMENT	NEEDED REDUCTION FROM TMDL
Fecal Colifrom	1,000 per 100 ml (geometric mean Nov-April) 200 per 100 ml (geometric mean May-Oct)	Wildlife Agricultural Livestock Urban Development	72%

IV. IDENTIFICATION AND RANKING OF POTENTIAL SOURCES OR CAUSES OF IMPAIRMENT

INVESTIGATE AND EVALUATE the sources of impairment for each parameter listed in Table 2. Write a narrative describing efforts made or procedures used to verify the significance and extent of the sources or causes of each impairment listed in the TMDLs. Include:

- Involvement of stakeholder group
- Review of land cover data
- Field surveys
- Evaluation of sources

Narrative of Procedures
The following measures were employed to help identify and evaluate potential sources or causes of impairment:

Review of land cover/land use data **– The MTRDC worked with local tax and zoning offices to acquire and/or update land use and land cover information regarding the watershed. A 1996 land cover file was used for base information, which was then reviewed against parcel and development information current through March of 2004. Included in this assessment, where possible, was information concerning sewer service areas and the distribution of sewer lines. Where possible, data for impervious surface was used. Copies of this information were available for review at all public hearings and through the MTRDC offices.**

A major part of this step included the development of more specific data concerning general land use types, specifically clarifying properties that were categorized for agricultural or forestry or actually used for such purposes. Identifying sites with unique or special conditions related to their potential impact on water quality (such as discharge points) were also recognized for special field surveys. Additional amendments included updates of land use information, new subdivisions and/or lot splits, and identification of main sewer lines.

Field surveys **– MTRDC staff performed windshield surveys of the watershed and, where possible, walked along stream corridors. These surveys were used to verify land use/land cover information, to identify potential sources of impairment and to assess the overall quality of the watershed and stream banks. Procession along the stream corridors was prohibited in many areas due to private property/trespassing concerns, and concentrated on the arterial streams involved in the TMDL planning process.**

MTRDC staff traveled along most of the paved public roads within the watershed, noting areas that may exhibit the potential for significant pollution problems. Several concentrations of older housing that rely on septic systems were targeted for future monitoring, as well as open fields that harbor livestock and appear susceptible to runoff problems. Staff also walked along the banks for several portions of the stream below the reservoir, examining the general quality of the bank, clarity of the water and searching for potential sources of contamination. In some instances it appeared the removal of surrounding vegetation for newer residential development in the southernmost portions of the watershed left stream banks moderately exposed; Though buffers were maintained and erosion control measures were in place, the changes in general topography and ground cover allowed runoff to reach the stream must more quickly and directly.

Involvement of stakeholders **– (See also Section V, Stakeholders) During the initial outreach and field surveys, MTRDC staff interviewed various property owners and spoke with City of Griffin staff concerning potential pollution sources. In most instances the prevalence of wildlife and the possibility of leaking wastewater systems, septic or sewer, were raised. However, it should be**

noted that no leaks were found within the public sewer system in this watershed during the planning process or in recent history. Also, because the City is required to monitor the health of the Heads Creek watershed and maintain the quality of the water flowing from the reservoir, a larger portion of the focus for this plan shifted to the remainder of the Wildcat Creek watershed. An additional public hearing opportunity for general input on the plan was unattended in May.

Evaluation of sources **– For each impairment identified there are conditions that suggest specific sources for that impairment. With fecal coliform the potential sources must include the production and/or management of human or animal waste. Where the planning process for this TMDL identified potential pollution source conditions, such as septic systems, animal farms, etc, each site was evaluated for its potential contribution to the impairment. The following conditions are cited are potential sources contributing to the pollution problem:**

Wildlife – This part of the region is predominantly rural, with lots of open land for deer, foxes and varieties of birds and waterfowl. While this watershed does is bisected by a heavily traveled Highway and touches on several small cities, the majority of the landscape is wooded or otherwise natural. Sparsely developed, with plenty of room for stable animal habitats.

Agricultural livestock – Several grazing areas and feeding operations were observed within the watershed, though few were of substantial size. Many of the fields were on soft, rolling hills, however, that suggested relative ease for which runoff can introduce animal wastes into any streams nearby. Most of the agricultural areas were fenced in, and there did not appear to be any land disturbance adjacent to streams within these properties.

Urban Development – There is little development within this portion of the watershed, most of it is at the headwaters and outer reaches of the tributaries. Runoff from the Highway could add to problems controlling the flow at some areas, but otherwise this did not appear a major concern. There are multiple septic tanks at use in the watershed, some of substantial age. There are no concentrations of such systems however, and to date limited monitoring of septic system performance in the area.

There is a study of Potato Creek in it's entirety currently underway. This is a two year effort funded through a Federal 319 Grant and co-sponsored by six local governments within the watershed. The goal of this effort will be to clarify the fecal coliform issues facing Potato Creek and seek to have the stream removed form the list of polluted waterways. Monitoring efforts are in place and results from this study should be available for review in 2005.

Additional field surveys beyond those allowed by this planning process must be done on a regular basis to monitor the potential impacts of the landfill and major developments. Property owners must also regularly monitor and maintain their individual septic systems, livestock fields and facilities, and soil applications to prevent the possibility of runoff contaminating local streams. Staff from the local Farm Bureau suggested that most, if not all, agricultural operations in the Griffin area are aware of best management practices and the critical nature of water quality in the Flint River Basin.

To the extent possible, identify sources and quantify the extent of pollution in the stream segment for each of the parameters listed in Table 2 and evaluate the likely impact on the parameter load to the stream. This should follow research performed and described in preceding narrative and should correct or add information to the TMDLs. **The *SOURCES SHOULD BE RANKED*** from those having the most impact to those having the least impact. The estimated extent of contribution can be expressed as the area of the watershed effected, the stream miles effected, or the number of activities contributing to the problem. The magnitude of contribution should be estimated to be large, moderate, small, or negligible.

Table 3. CONCLUSIONS MADE OF POTENTIAL SOURCES OF STREAM SEGMENT IMPAIRMENT

PARAMETER 1	POTENTIAL SOURCES	ESTIMATED EXTENT OF CONTRIBUTION	ESTIMATED MAGNITUDE OF CONTRIBUTION	COMMENTS
Fecal Coliform	***Agricultural Livestock***	Wastes entering streams directly or through runoff; Much of the watershed within Pike and Lamar Counties features agricultural activities of various scales.	Moderate	Some notable activity within the region, particularly the concentrations around select sub-watersheds.
	Wildlife	Wastes entering streams directly or through runoff; This is a very rural watershed with established wildlife.	Moderate	The general watershed remains quite rural. Region noted for density of deer population (DNR, 2000)
	Urban Development	***Septic systems*** - Leaking/faulty systems entering streams through runoff; Possibility of older, rural lots featuring faulty systems.	Small-moderate	Spalding County has a high volume of septic systems and incidences of repair through year 2000.
	Urban Development	***Sewerage systems*** - Leaks allowing untreated wastes to enter streams	Negligible	No significant incidents reported.

V. STAKEHOLDERS

PUBLIC INVOLVEMENT AND THE ACTIVE PARTICIPATION OF STAKEHOLDERS is essential to the process of preparing TMDL implementation plans and improving water quality. Stakeholders can provide valuable information and data regarding their community, impaired water bodies, potential causes of impairments, and management practices and activities which may be employed to reduce the impacts of the causes of impairment.
Describe outreach activities to advise and engage stakeholders in the TMDL implementation plan preparation process. Describe the stakeholder group employed or formed to address the impaired segments in the watershed. Summarize the results of the number of attendees and meetings and describe major findings, recommendations, and approvals.

Initial outreach to key stakeholders involved direct communication and surveys of potential water quality issues and one general public hearing in May that was unattended. Copies of the initial watershed evaluation, which included the basic watershed profile and preliminary assessment of potential sources of impairment, were made available for public review in June of 2004. Before the draft Plan is approved, continuing outreach regarding the TMDL planning process will include further public hearings and direct follow up with key stakeholders in the impacted communities.

Staff from the local county governments were consulted early in 2004 for input on the land use/land cover information while sewer system managers (authorities or the government) were contacted regarding the performance of the sewer system and potential sources of contamination. The various system managers will be regularly advised of all progress with the plan and feature strong input on the resulting management measures and activities.

The names of several businesses, land owners and other key stakeholders were sought from local officials, Farm Bureau offices and area Chambers of Commerce. Members of each were invited to meet with MTRDC staff and offer input, questions and comments in the initial outreach phase of the process. The draft plan will also be made available to these agencies and their members for additional review and comment.

The MTRDC has a standing Environmental Advisory Committee that proved critical to the development of the region's original TMDL implementation plans. In addition to least two representatives from each member county serving on the Committee, officials from local water and sewer authorities are regularly invited to participate, as well as other identified stakeholders as requested by local leaders. Members were consulted as part of the general outreach of this process and will be invited to comment, if not convene, for further review of the draft plan.

The MTRDC Board, which also features representation from all member counties, has also been appraised of the program efforts and allowed to comment and participate in the planning process, but no one from this board has made any suggestion regarding Wildcat Creek.

A consistency among the comments and recommendations was the suggestion that the violations shown in the original TMDL appear isolated in nature and may not be indicative of the stream's regular state. If there is in fact a consistent problem it was also suggested

that natural wildlife may be the largest contributor, specifically the local deer population. There was no immediate recognition of likely sources among agricultural operations or obvious leaks from septic or sewer systems, save for unconfirmed suggestions of possible problems associated with the wastewater land application site.

Final public hearings for all of the region's Tier 2 TMDL Plans were held on December 15, 2004 in Griffin and Thomaston. Only 2 persons from the general public attended each hearing, with no new comments presented. Local officials were also given till that day to comment on copies of the plans presented to them within the past month. Several comments suggesting amendments to policy measures and possible magnitudes of contribution from each source were discussed. Any and all comments received up to that day have been incorporated into the plan.

Another resource recommended for future inclusion is the recently formed Upper Flint River Basin Stakeholder Committee. Developed within the past year as a means to coordinate activism on behalf of the river and the watershed, this committee includes similar representation of local officials, private interest stakeholder groups, land owners and more. Their objective is to promote the welfare of the river and provide communication and education to inform area decision makers.

List the watershed or advisory committee members of the stakeholder group for this segment in the following table.

Table 4. COMMITTEE MEMBERS

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Chuck Taylor, Spalding County	PO Box 1087	Griffin	GA	30224	770.467.4233	ctaylor@spaldingcounty.com
Hameed Malik, City of Griffin	PO Box T	Griffin	GA	30224	770.229.6424	hmalik@cityofgriffin.com
Mr. Van Whaler Butts County	25 Third Street, Suite 4	Jackson	GA	30233	770.775.8200	
Mr. Patrick Comiskey City of Thomaston	P. O. Box 672	Thomaston	GA	30286	706.647.4242	
Mr. Clay Ross City of Zebulon	P. O. Box 385	Zebulon	GA	30295	770.567.8748	
Mark Bryant Upson County	106 East Lee St. Suite 110	Thomaston	GA	30286	706.647.7012	
Mrs. Marcie Seleb Butts County Water Auhtority	P. O. Box 145	Jackson	GA	30233	770.775.0042	
Mr. Reggie Watson Barnesville Water Department	109 Forsyth Street	Barnesville	GA	30204		
Mr. Bobby Burnette Lamar County	326 Thomaston Street	Barnesville	GA	30204	770.358.5146	
Mr. Tommy Burnsed Interim County Manager	PO Box 377	Zebulon	GA	30295	770.567.3406	
Mr. Charles Absher Integrated Science and Engineering	275 South Lee Street	Fayetteville	GA	30214		

**** The above list represents those stakeholders who will be included as part of all regular environmental Advisory Committee meetings regarding this and other local TMDL initiatives. They have been selected for their relationship to the watershed and their position in community. Additional stakeholder, see Appendix A, will be allowed input and participate in public and watershed specific forums.***

In Appendix A, list the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

VI. MANAGEMENT MEASURES AND ACTIVITIES

Describe any management measures or activities that have been put into place or will be put into place including regulatory or voluntary actions or other controls by governments or individuals that specifically apply to the pollutant that will help achieve water quality standards. Include who will be responsible for the measure, how it will be funded, the status, the date it will be or was initiated, and a short description of how effective the measure is or will be.

Table 5. MANAGEMENT MEASURES AND ACTIVITIES

GENERAL MEASURES APPLICABLE TO ALL PARAMETERS

MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENTED	EFFECTIVENESS (Very, Moderate, Weak)
Local Codes/ Zoning Ordinances	*Local Government*	*Environmental regulations and stream buffer requirements (DNR Part V)*	**NA**	**In Place**	***2001***	**Very**
Development Regulations	*Local Government*	*Minimum erosion and sedimentation control measures*	**NA**	**In Place**	***1996***	**Moderate**
Land Use Planning	*Local Government*	*Adopted Land Use/ Future Land Use plan*	**NA**	**In Place**	***2000***	**Moderate**
Illicit Discharge Ordinances & regulations	*City of Griffin*	*Discharge permit standards; Water quality monitoring & testing; Reporting standards*	**NA**	**In Place**	***2000***	**Moderate**
Flint River Basin Plan	*Ga. EPD*	*State plan for monitoring and managing Flint River basin protective measures*	**NA**	**In Place**	**1997**	**Moderate**
Discharge Regulations	*Ga. EPD*	*Discharge permitting and management*	**NA**	**In Place**	**1995**	**Very**
Source Water Assessment Plan	*MTRDC*	*Watershed plan for the Heads Creek Reservoir*	**NA**	**In Place**	**2002**	**Moderate**

NPDES Phase II MS4 Municipal Stormwater Permit	Local County Government	Requires jurisdiction to have a comprehensive stormwater program, which includes public education and participation, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, pollution prevention, permitting and reporting, and program implementation plans.		In Place (Griffin)		The goals of this program are designed to improve water quality conditions and/or prevent further degradation of water quality and biotic integrity in the impaired stream corridor.
Local County Stormwater Management Ordinance	Local County	Control stormwater runoff to the MS4 within unincorporated areas of Clayton County		In Place (Griffin); Proposed (Spalding)		Provides consequences for illicit discharges and connections to the MS4.
Adopt the Georgia Stormwater Management Manual (GSMM)	Local County Government	Adopt the Georgia Stormwater Management Manual (GSMM) as the county's stormwater design manual. The county and cities may also develop an addendum to the manual which has county specific requirements that are not covered by the GSMM.		In Place (Griffin); Proposed (Spalding)		
Stormwater Ordinance	Local County Planning & Zoning	Ordinance to address non-point source pollution.		In Place (Griffin); Proposed (Spalding)		Gives the inspectors a way to address non-point source pollution that is discharged into the MS4 system.
Stormwater Management Audit / Assessment	Local County Government	Internal assessment of stormwater Internal assessment of stormwater pollution prevention plan (map of facility and responsibilities for upkeep): including but not limited to septic system controls, storm drain system cleaning, stormwater detention basins maintenance, alternative products, hazardous materials storage, road salt application and storage, spill response and prevention, used oil recycling, materials management, leaking fluids from vehicles, and street sweeping		In Place (Griffin); Proposed (Spalding)		The county needs to ensure that they are meeting all applicable stormwater requirements.
Stormwater BMP Guidance Document for Municipal Operations	Local County Government	Following the audit / assessment, prepare a BMP procedures and guidance manual for County and the cities' departments to minimize impact of municipal operations on stormwater runoff. This document should address all of the activities identified in the audit / assessment and focus on any common problem areas identified.		In Place (Griffin); Proposed (Spalding)		
Local County Land Development Guidelines	Local County	Includes stormwater quantity and quality requirements for new developments		In Place		Requires post-development controls for stormwater quantity and quality intended to reduce pollution loads from new developments.

MEASURES APPLICABLE TO INDIVIDUAL PARAMETERS

PARA-METER 1	MEASURE	RESPONSIBILITY	DESCRIPTION	SOURCE OF FUNDING	STATUS	ENACTED/ IMPLEMENT-ED	EFFECTIVENESS (Very, Moderate, Weak)
Fecal Coliform	*Local Codes/ Zoning Ordinances*	*Local Governments*	*Review of land use regulations governing septic tanks & waste management*	*NA*	*In Place*	*2005*	*Moderate*
Fecal Coliform	*Best Management Practices*	*Local Governments, Farm Bureau*	*Review & promotion of implementation for livestock & animal waste control efforts within watershed*	*DNR*	*Proposed*	*2006*	*Moderate - Very*
Fecal Coliform	*Best Management Practices*	*Local Governments, Ga Forestry*	*Review & promotion of implementation for erosion and sediment control efforts within watershed*	*Ga Forestry, DNR*	*Proposed*	*2006*	*Moderate - Very*
Fecal Coliform	*Septic System Monitoring*	*Local Governments, DNR*	*Inventory of properties w/septic systems within the watershed; Study of conditions, age and reports of system repairs within the watershed*	*Local, DNR*	*Proposed*	*2005 2006*	*Moderate*
Fecal Colifrom	*Septic System Management*	*Local Governments, DNR*	*Promotion of system maintenance.*	*Local, DNR*	*Proposed*	*2006 2007*	*Moderate*
Fecal Coliform	*Wildlife Monitoring*	*Local Governments*	*Evaluation of wildlife habitat within the watershed*	*DNR, Local*	*Proposed*	*2006 2007*	*Weak*
Fecal Coliform	*Sewer System Maintenance*	*City of Griffin, City of Thomaston*	*Monitoring and maintenance of sewer system facilities and lines*	*Local*	*In Progress*	*-*	*Very*

VII. MONITORING PLAN

The purposes of monitoring are to obtain more data, to determine the sources of pollution, to describe baseline conditions, and to evaluate the effects of management and activities on water quality. Describe any sampling activities or other surveys - active, planned or proposed - and their intended purpose. Reference the development and submission of a Sample Quality and Assurance Plan (SQAP) if monitoring for delisting purposes.

Table 6. MONITORING PLAN

PARAMETER(S) TO BE MONITORED	ORGANIZATION	STATUS (CURRENT, PROPOSED, PLANNED)	TIME FRAME		PURPOSE (If for delisting, date of SQAP submission)
			START	END	
Fecal Coliform	UGA	Underway	2004	2006	De-listing (SQAP submission unknown)
Fecal Coliform	DNR – River basin testing schedule	Proposed	2005	2006	Unknown
Fecal Coliform	Local Governments/ MTRDC	Planned/ Proposed	2007	2008	If needed, will pursue funding for monitoring of the watershed

VIII. PLANNED OUTREACH FOR IMPLEMENTATION

List and describe outreach activities which will be conducted to support this plan and the implementation of it.

Table 7. PLANNED OUTREACH

RESPONSIBILTY	DESCRIPTION	AUDIENCE	DATE
MTRDC	Distribution of plan	Local officials, landowners and managers of agricultural operations.	Qtr 1, 2005
MTRDC, Local Governments	Development of area-specific promotional materials for best management practices of septic system maintenance	Landowners	Qtr 3-4, 2005
MTRDC, Local Governments	Development of area-specific promotional materials for best management practices (agricultural, forestry and erosion and sediment control)	Managers of agricultural operations	Qtr 3-4, 2005
MTRDC, Local Governments	Report and promotional material for maintenance of unpaved roadways	Landowners, local road departments	Qtr 1, 2006

IX. MILESTONES/ MEASURES OF PROGESS OF BMPs AND OUTREACH

This table will be used to **track and report progress of management measures including BMPs and outreach**. Record milestone dates for:
- accomplishment of management practices or activities - outreach activities
- installation of BMPs

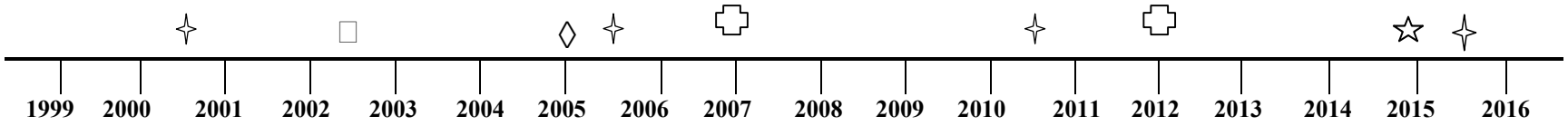
to attain water quality standards. Comment on the effectiveness of the management measure, how much support the measure was given by the community, what was learned, how the measure might be improved in the future, and any other observations made. This table can be "pulled out" of this template and used to report and track progress.

Table 8. MILESTONES

MANAGEMENT MEASURE	RESPONSIBLE ORGANIZATIONS	STATUS		COMMENT
		PROPOSED	INSTALLED	
Distribution of TMDL Plan	*MTRDC*			
Review of land use regulations governing septic tanks & waste management	*Local Governments, MTRDC*	*2005*		
Review & promotion of implementation for livestock & animal waste control efforts within watershed	*Local Governments, Farm Bureau, MTRDC*	*2006*		
Review & promotion of implementation for erosion and sediment control efforts within watershed	*Local Governments, Ga Forestry, MTRDC*	*2006*		
Inventory of properties w/septic systems within the watershed; Study of conditions, age and reports of system repairs within the watershed	*Local Governments, DNR, MTRDC*	*2005 2006*		
Promotion of system maintenance.	*Local Governments, DNR, MTRDC*	*2006 2007*		
Evaluation of wildlife habitat within the watershed	*Local Governments, MTRDC*	*2006 2007*		
Monitoring and maintenance of sewer system facilities and lines	*Local Governments,*	-		
Review & promotion of BMPs for grazing and soil maintenance	*Local Governments, MTRDC, DNR*	*2006*		

PROJECTED ATTAINMENT DATE

The projected date to attain and maintain water quality standards in this watershed is 10 years from acceptance of the TMDL Implementation Plan by Georgia EPD.



Scheduled EPD basin Group Monitoring

TMDL Completed

TMDL Implementation Plan Accepted

Evaluation of implementation plan/water quality improvement

Project Attainment

Prepared By:	Adam Hazell, AICP; Planning Director				
Agency:	McIntosh Trail Regional Development Center				
Address:	PO Box 818, 120 North Hill Street				
City:	Griffin	ST:	GA	ZIP:	30224
E-mail:	ahazell@cityofgriffin.com				
Date Submitted to EPD:	December 15, 2004			Revision:	1

The preparation of this report was financed in part through a grant from the U.S. Environmental Protection Agency under the provisions of Section 106 or Section 604(b) of the Federal Water Pollution Control Act, as amended.

APPENDIX A.

STAKEHOLDERS

List the names, addresses, telephone numbers, and e-mail addresses for local governments, agricultural or commercial forestry organizations, significant landholders, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

NAME/ORG	ADDRESS	CITY	STATE	ZIP	PHONE	E-MAIL
Georgia Farm Bureau	PO Box 7068	Macon	GA	31210	478.474.8411	
Spalding County Water Department	119 East Solomon Street, 110 Courthouse Annex	Griffin	GA	30224	770.467.4208	
McIntosh Trail RDC	PO Box 818	Griffin	GA	30224	770.227.6300	ahazell@cityofgriffin.com
UGA Griffin Campus	1109 Experiment Street	Griffin	GA	30223	770.228.7225	
Towaliga Soil & Water Conservation District	333 Phillips Drive	McDonough	GA	30252		Ken.Gran@gamcdonoug.fsc.usda.gov
Georgia Forestry Commission	2362 Ethridge Mill Road	Griffin	GA	30224	770.229.3475	gfc04126@gfc.state.ga.us
Georgia Forestry Commission	1599 Hwy 42 South	McDonough	GA	30252	770.504.2238	gfc04075@gfc.state.ga.us
Two Rivers Resource and Conservation District	900 Dallas Street	LaGrange	GA	30240		two.rivers.org@mindspring.com
Griffin Technical College	501 Varsity Road	Griffin	GA	30223	770.228.7348	
Bruce Ballard, Griffin-Spalding School Board	216 South 6th Street	Griffin	GA	30224	770.229.3710	
Spalding Co. Health Dept.	PO Box 129	Griffin	GA	30224		
Spalding Co. Extension Service	PO Box 277	Griffin	GA	30224	770.467.4225	
Larry Walker, Weyerhauser	P. O. Box 238	Oglethorpe	GA	31068		
Upper Flint River Basin Stakeholders c/o MTRDC	PO Box 818	Griffin	GA	30224	770.227.6300	ahazell@cityofgriffin.com
City of Barnesville	109 Forsyth Street	Barnesville	GA	30204	109 Forsyth Street	
City of Zebulon	PO Box 377	Zebulon	GA	30295	770.567.3406	

City of Thomaston	P. O. Box 672	Thomaston	GA	30286	706.647.4242	
Upson County	106 East Lee St. Suite 110	Thomaston	GA	30286	706.647.7012	
Pike County	PO Box 377	Zebulon	GA	30295	770.567.3406	
Lamar County	326 Thomaston Street	Barnesville	GA	30204	770.358.5146	

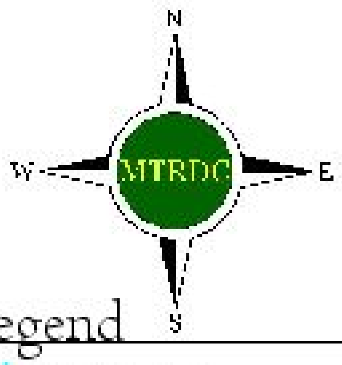
APPENDIX B.

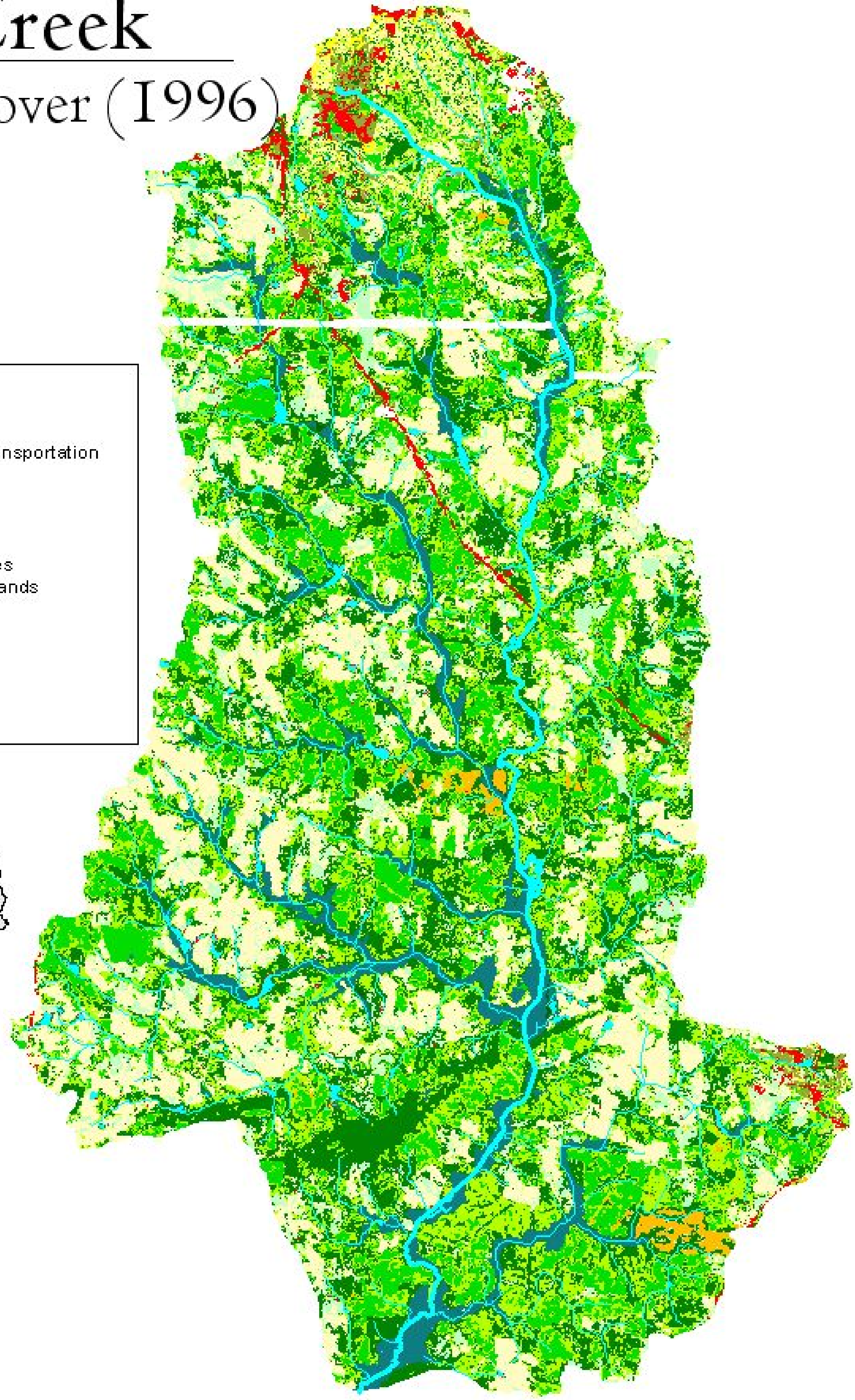
UPDATES TO THIS PLAN

Describe any updates made to this plan. Include the date, section or table updated, and a summary of what was changed and why.

Potato Creek

Land Cover (1996)



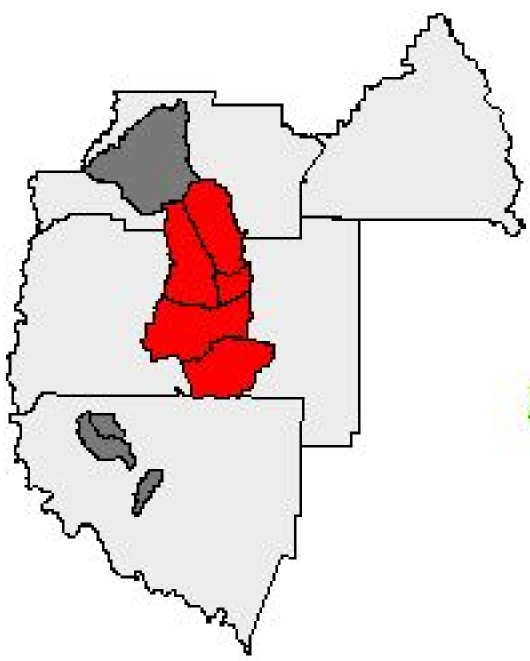


Legend

- Potato Creek
- Potato Creek Tributaries

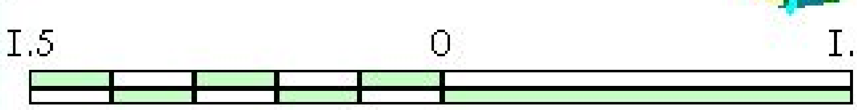
Potato Creek Land Cover (1996)

- Commercial / Industrial / Transportation
- Row Crops
- Mixed Forest
- Evergreen Forest
- Deciduous Forest
- Urban / Recreational Grasses
- Emergent Herbaceous Wetlands
- Woody Wetlands
- Pasture / Hay
- Low Intensity Residential
- High Intensity Residential
- Transitional
- Open Water



McIntosh Trail RDC

120 N Hill Street 770.227.6300 - V
P.O. Box 818 770.227.6488 - F
Griffin, GA 30224 www.mtrdc.org



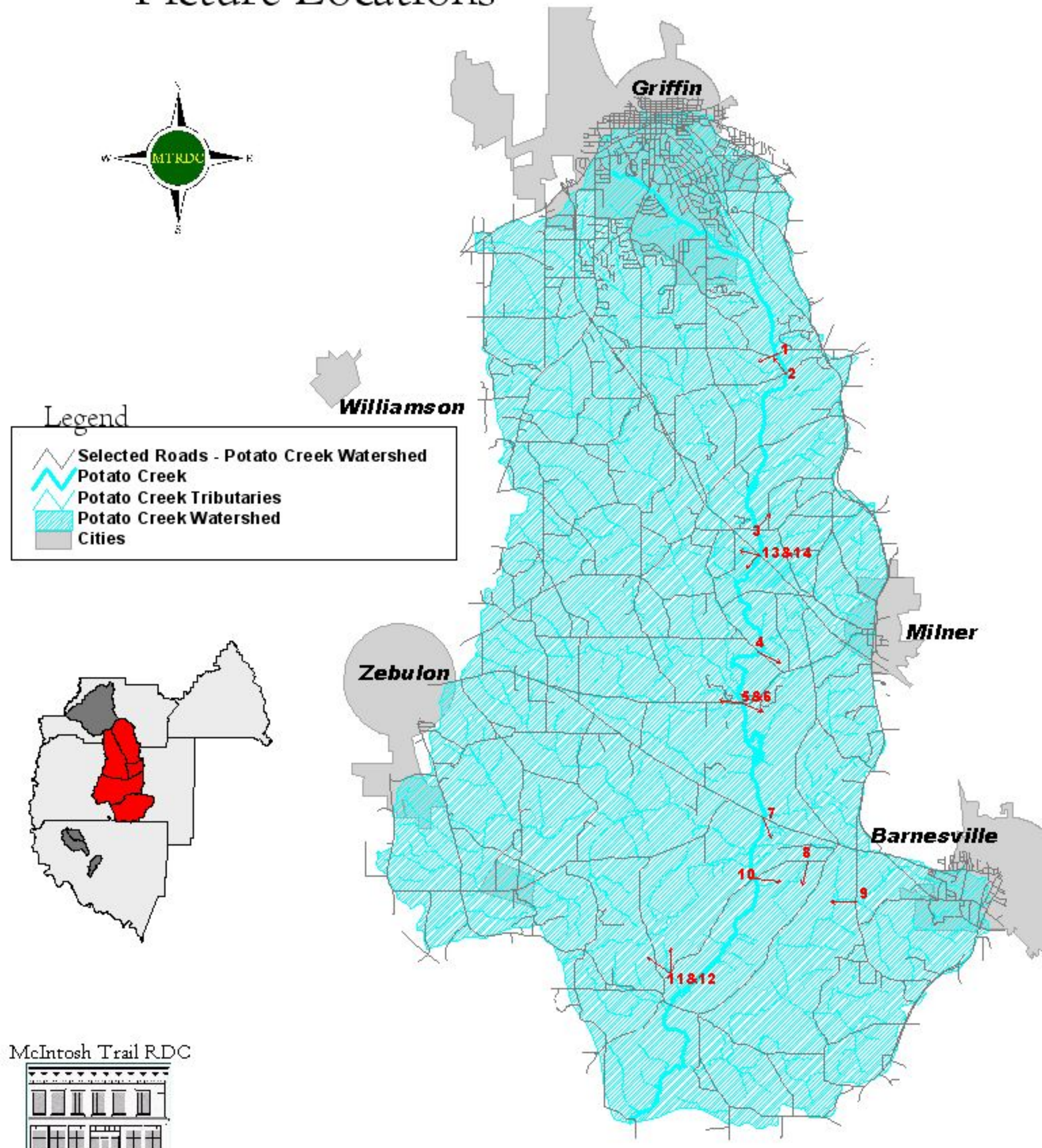
October 28, 2004

Source: USGS (2000); Georgia DOT (1996-2004); MTRDC (2004); US Census (2000); Georgia DCA (200

Disclaimer: This map is intended for informational purposes only, and is accurate to the best knowledge of its producers. The user of this documeng agrees to render the McIntosh Trail RDC blameless for the information herein.

Potato Creek

Picture Locations



Legend

- Selected Roads - Potato Creek Watershed
- Potato Creek
- Potato Creek Tributaries
- Potato Creek Watershed
- Cities

McIntosh Trail RDC

120 N Hill Street 770.227.6300 - V
P.O. Box 818 770.227.6488 - F
Griffin, GA 30224 www.mtrdc.org

2 0 2 4 Miles

Potato Creek

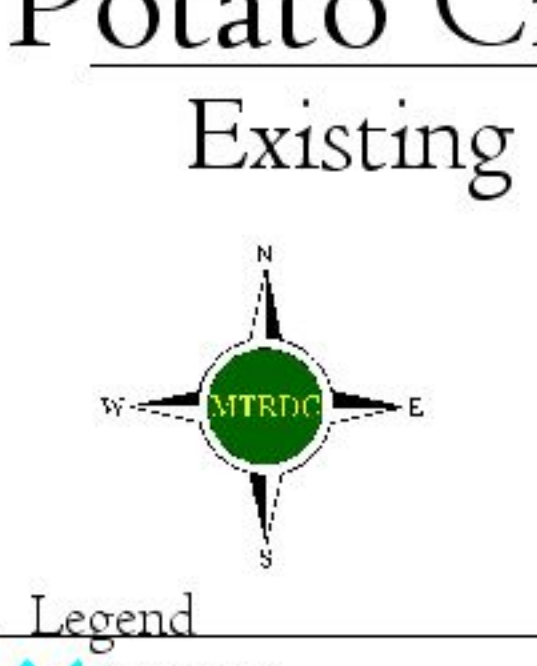
Existing Land Use

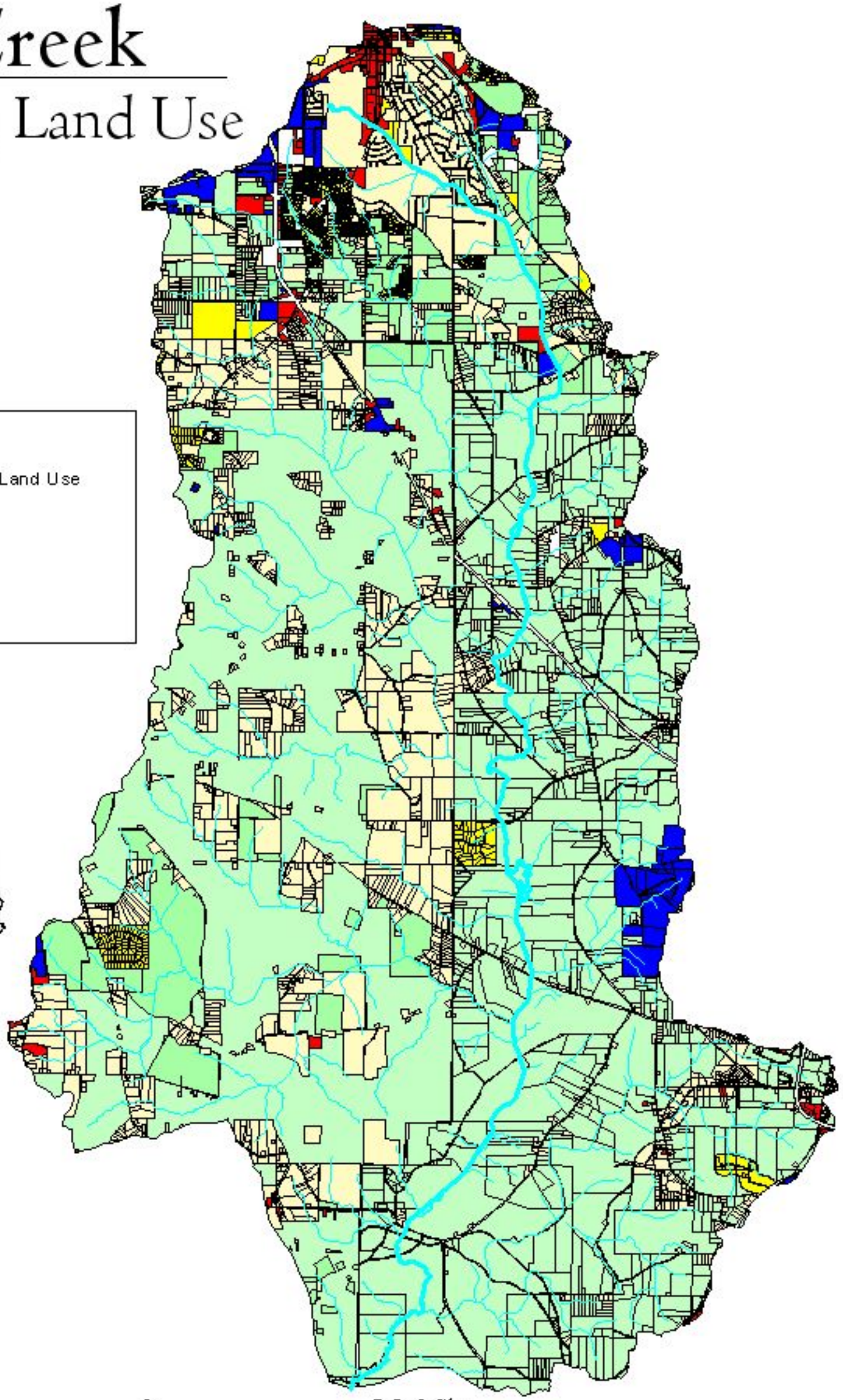
Legend

- Potato Creek
- Potato Creek Tributaries

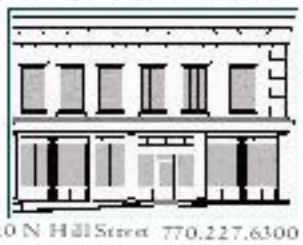
Potato Creek Watershed - Existing Land Use

- Agriculture/Forestry
- Undeveloped/Unused
- Commercial
- Industrial
- Low Density Resident
- Medium Density Resid





McIntosh Trail RDC



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Griffin, GA 30224 www.mtrdc.org

I.5 0 I.5 Miles

October 28, 2004

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